

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

WAYMO LLC,

Plaintiff,

Case

vs.

No. 3:17-cv-00939-WHA

UBER TECHNOLOGIES, INC.;

OTTOMOTTO LLC; OTTO TRUCKING LLC,

Defendants,

1

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VIDEOTAPED DEPOSITION OF JAMES HASLIM

THURSDAY, MAY 4, 2017

Reported by:

Anrae Wimberley

CSR No. 7778

Job No. 2610396

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1	Q. How often did Mr. Levandowski bring his	11:07:32
2	personal laptop to work with him?	11:07:35
3	MR. KIM: Objection; form.	11:07:35
4	THE WITNESS: I couldn't possibly know.	11:07:37
5	BY MR. JAFFE:	11:07:37
6	Q. Every day?	11:07:39
7	MR. KIM: Objection; form.	11:07:39
8	THE WITNESS: The reason I couldn't possibly know	11:07:42
9	is I don't know whether the laptop he may have carried	11:07:45
10	was his personal laptop or the work laptop.	11:07:48
11	BY MR. JAFFE:	11:07:48
12	Q. I see. All right. So let's just talk about	11:07:51
13	the one laptop that you know about.	11:07:53
14	How often did he bring that laptop to work	11:07:55
15	with him?	11:07:56
16	MR. KIM: Objection; form.	11:07:56
17	THE WITNESS: I don't know. I have no idea.	11:08:02
18	BY MR. JAFFE:	11:08:02
19	Q. You saw him at work with the personal laptop;	11:08:06
20	right?	11:08:06
21	A. I'm sure I've seen him at work with a laptop.	11:08:10
22	Q. And that was a regular occurrence; right?	11:08:12
23	MR. KIM: Objection; form.	11:08:14
24	THE WITNESS: I hardly paid attention to how often	11:08:18
25	he was carrying a laptop.	11:08:20

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1 that Mr. Levandowski was demoting himself in some way. 11:34:26

2 Are you familiar with that? 11:34:27

3 A. I'm familiar with the announcement that his 11:34:31

4 position was changing. I only take issue with your 11:34:37

5 comment -- or your phrase that says he was demoting 11:34:40

6 himself. I don't know who decided his position should 11:34:45

7 change. 11:34:45

8 Q. I see. 11:34:45

9 So you don't know who actually decided that 11:34:49

10 his position should change? 11:34:51

11 A. Correct. 11:34:51

12 Q. And do you take issue with the idea that he 11:34:54

13 was demoted in some way? 11:34:56

14 A. Not necessarily. 11:34:58

15 Q. Okay. So if I call it his demotion, that's a 11:35:03

16 fair statement? 11:35:03

17 A. I won't argue with that. 11:35:05

18 Q. So how did you find out about 11:35:09

19 Mr. Levandowski's demotion? 11:35:12

20 A. I received an e-mail. I believe the whole 11:35:16

21 company received an e-mail describing that change. 11:35:21

22 I want to say Anthony sent the e-mail, but 11:35:25

23 I'm not 100 percent positive on that. 11:35:28

24 [REDACTED]

[REDACTED]

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1	Q. Who came up with [REDACTED]	11:57:45
2	for Fuji?	11:57:46
3	A. I would say that was a decision reached by me	11:57:56
4	with collaboration with my electrical engineer Florin	11:58:00
5	Ignatescu.	11:58:02
6	Q. Anyone else?	11:58:07
7	A. I believe the discussion of the [REDACTED]	11:58:13
8	also involved Gaetan as it pertains to the performance	11:58:20
9	of his lens and how it would work with [REDACTED]	11:58:25
10	I'm sure we informed other people. Scott may have	11:58:34
11	been in the office when we were making this decision	11:58:36
12	as well. Dan Gruver would probably be informed as	11:58:41
13	well, but I don't recall Dan playing any role in that	11:58:45
14	decision.	11:58:45
15	Q. Who was involved in coming up with [REDACTED]	[REDACTED]
	[REDACTED]	11:58:50
17	MR. KIM: Objection; form.	11:58:53
18	THE WITNESS: In coming up with [REDACTED] I	11:58:57
19	would say that was primarily me and the electrical	11:59:00
20	engineer, Florin.	11:59:02
21	BY MR. JAFFE:	
22	Q. And then you discussed it with the LiDAR	11:59:05
23	team?	11:59:07
24	MR. KIM: Objection; form.	11:59:09
25	THE WITNESS: Yes.	11:59:09

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1	Q. Are you aware of any conversations between	12:00:17
2	Mr. Gruver or Mr. Pennecot and Mr. Levandowski	12:00:20
3	regarding the number of transmit boards in the Fuji	12:00:24
4	design?	12:00:24
5	MR. KIM: Objection; form.	12:00:26
6	THE WITNESS: I am not aware.	12:00:28
7	BY MR. JAFFE:	12:00:28
8	Q. So it's possible that they have discussed	12:00:29
9	this issue with them, you wouldn't know that; right?	12:00:32
10	A. I wouldn't know that.	12:00:34
11	Q. So you're not saying that Mr. Levandowski has	12:00:36
12	never had discussions or input into the idea to use	12:00:40
13	[REDACTED]; right?	12:00:43
14	MR. KIM: Objection; form.	12:00:46
15	THE WITNESS: What I am saying is that Anthony	12:00:48
16	never had input into my decision with my electrical	12:00:55
17	engineer to put [REDACTED].	12:01:00
18	BY MR. JAFFE:	12:01:00
19	Q. Right.	12:01:00
20	But you talked about that decision with	12:01:02
21	Mr. Gruver, for example; right?	12:01:03
22	A. I think discussions with Gruver came later,	12:01:07
23	yeah.	12:01:07
24	Q. Or Mr. Pennecot, for example?	12:01:10
25	A. Mr. Pennecot was probably consulted in that	12:01:13

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1 A. Yes. 12:03:36

2 We knew we needed a laser circuit, so I had 12:03:40

3 Florin design multiple laser circuits onto a board for 12:03:45

4 test and evaluation. We picked one of those circuits 12:03:48

5 that we thought performed the best. He began 12:03:51

6 considering the size of his circuit in one of those -- 12:03:56

7 I believe it was 10 different circuits. The one we 12:03:59

8 chose, he could look at the design of it and tell me 12:04:02

9 the size. 12:04:04

10 So at this point, as I recall, Gaetan did not 12:04:10

11 have a laser board design in his CAD model. He had a 12:04:20

12 lens design. He may have had -- I even doubt he had 12:04:26

13 taken that into CAD yet. 12:04:29

14 Q. So I'm a little bit confused. 12:04:32

15 Where did the idea to have [REDACTED] come 12:04:34

16 from? 12:04:35

17 [REDACTED]

18 [REDACTED] The need to 12:04:49

19 [REDACTED] developed quickly between 12:04:56

20 Florin and I looking at the size of the circuit, 12:04:59

21 knowing when Scott Boehmke defines a certain [REDACTED]

22 [REDACTED] when Gaetan has 12:05:08

23 designed a lens that has a 150 millimeter focal 12:05:13

24 length, it becomes apparent that the [REDACTED] 12:05:19

1 [REDACTED] [REDACTED]
2 [REDACTED] 12:05:24
3 It was obvious to me that wasn't going to 12:05:26
4 work and we would have to [REDACTED]
5 [REDACTED] Later we went back and looked closer, and I 12:05:33
6 realized, wait a minute, [REDACTED]
7 [REDACTED] So we can't put circuits on [REDACTED]
8 [REDACTED]
9 [REDACTED] 12:05:47
10 Furthermore, we were starting to look at 12:05:50
11 components on the receiver. We saw components on the 12:05:53
12 receiver that were themselves [REDACTED] 12:05:58
13 Those were high voltage components. They needed 12:06:00
14 additional space between them as well. So it seemed 12:06:01
15 pretty clear at the time [REDACTED] was not 12:06:05
16 going to work, so we said [REDACTED] ? Florin 12:06:09
17 thought he could [REDACTED] 12:06:14
18 So that ended up with [REDACTED]
19 [REDACTED] We already had decided two cavities to make 12:06:20
20 64 channels, so that ended up with [REDACTED] 12:06:24
21 in the sensor. 12:06:25
22 Q. Where are the documents that reflect the 12:06:27
23 discussions that you were just talking about? 12:06:31
24 A. We did not document our discussions. 12:06:33
25 Q. Okay. So there are no -- there's no 12:06:35

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1 documentary evidence to evidence -- to support what 12:06:39
2 you just said? 12:06:40

3 MR. KIM: Objection; form. 12:06:42

4 BY MR. JAFFE: 12:06:42

5 Q. Is that fair? 12:06:42

6 A. Not quite. 12:06:43

7 We have documents showing and indicating to 12:06:47
8 us what the vertical angles were to be for the sensor 12:06:52
9 as specified by Scott Boehmke. We have a lens design 12:06:57
10 that's documented from Gaetan. We have the original 12:07:03
11 circuit Florin had developed for testing out lasers. 12:07:10

12 At that point, the documentation stopped. 12:07:14

13 And we don't have documents for discussions describing 12:07:22
14 how [REDACTED] [REDACTED] 12:07:27

16 Q. Okay. So I just want to run through that 12:07:30
17 real quick. 12:07:30

18 So you're saying that you got the idea for 12:07:34
19 [REDACTED] based on three things. One is the [REDACTED]
[REDACTED] of the diodes that you wanted. Two is the 12:07:43
21 [REDACTED] And three is the [REDACTED] [REDACTED] 12:07:49

23 Generally, is that fair? 12:07:53

24 A. I'd like you to add a fourth, which is the 12:07:56
25 [REDACTED] and possibly a 12:08:04

1

[REDACTED] 14:00:49

3

A. I'm sorry. I don't think I was clear before. 14:00:53

4

When Gaetan designed the outline of this 14:00:56

5

board and specified [REDACTED]

[REDACTED]

14:01:17

11

Q. So the original idea was [REDACTED]

[REDACTED]

14:01:22

13

A. No. 14:01:22

14

Q. So then let me ask my question again then. 14:01:25

15

What is the point of including [REDACTED]

[REDACTED]

-- in this chart? 14:01:30

17

A. This information could have been provided to 14:01:36

18

the electrical engineer so that [REDACTED]

[REDACTED]

14:01:43

20

And if he hasn't [REDACTED]

[REDACTED]

[REDACTED]

14:01:55

23

Q. Why do you think he did that? 14:01:57

24

A. He needs to [REDACTED] that's as 14:02:00

25

good as -- better than an outline of a board which is 14:02:03

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1	A. I see that, yes.	14:28:10
2	Q. The "LiDAR team" right there, that includes	14:28:15
3	Anthony Levandowski; right?	14:28:17
4	MR. KIM: Objection; form.	14:28:17
5	THE WITNESS: I wouldn't have considered him part	14:28:24
6	of the LiDAR team, but clearly he was informed of the	14:28:30
7	decision and we got his buyoff because it affected the	14:28:33
8	program.	14:28:34
9	BY MR. JAFFE:	14:28:34
10	Q. So, again, I'm referring to what's in your	14:28:36
11	declaration. Your declaration says, "The LiDAR team's	14:28:39
12	decision."	14:28:39
13	Is Mr. Levandowski part of the LiDAR team in	14:28:41
14	your declaration or not?	14:28:43
15	MR. KIM: Objection; form.	14:28:46
16	THE WITNESS: No.	14:28:46
17	BY MR. JAFFE:	14:28:46
18	Q. So when you said, "The LiDAR team's decision	14:28:51
19	to abandon the project," you're excluding	14:28:54
20	Mr. Levandowski?	14:28:55
21	A. I am.	14:28:56
22	Q. Even though he had to actually make the	14:28:59
23	decision to pivot?	14:29:00
24	A. I would say the LiDAR team proper made a	14:29:03
25	decision based on technical matters; whereas, Anthony	14:29:06

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1 MR. JAFFE: Which number are we at? 14:34:23
2 THE REPORTER: I think we're on 156.
3 MR. KIM: How long have you gone on the record? 14:35:02
4 THE REPORTER: We're on 157.
5 THE VIDEOGRAPHER: Three hours and four minutes.
6 MR. KIM: We've got another hour. If there's a
7 convenient time for a break.
8 MR. JAFFE: I'll do this -- 14:35:04
9 MR. KIM: You can ask your next --
10 MR. JAFFE: -- really quick and then we can take a 14:35:07
11 quick break. 14:35:08
12 (Plaintiff's Exhibit 157 was marked.) 14:35:23
13 BY MR. JAFFE:
14 Q. I've marked as Exhibit 157 a document with 14:35:26
15 the slip sheet labeled "Exhibit H." And then the 14:35:30
16 document underlying that says, [REDACTED] 14:35:33
17 Is this a document that you were referring to 14:35:36
18 before that Mr. Levandowski, Anthony Levandowski that 14:35:40
19 is, called you about and discussed? 14:35:41
20 MR. KIM: Objection; form. 14:35:52
21 THE WITNESS: No, this is not, to my recollection, 14:35:56
22 the same document. There does appear to be some 14:36:00
23 features in here, but for reasons I don't understand, 14:36:03
24 there seems to be pages I'm not familiar with. 14:36:07
25 BY MR. JAFFE: 14:36:07

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1	Q. So you're familiar with some pages of this	14:36:15
2	document, but not others; is that fair?	14:36:18
3	A. I think so, yeah.	14:36:19
4	Q. Let's go to page 10.	14:36:20
5	A. Okay.	14:36:22
6	Q. And, actually, before we get there, going	14:36:30
7	back to the first page, it's dated May 16th, 2016.	14:36:33
8	You worked at Otto at that time; right?	14:36:36
9	A. I believe I did, yes.	14:36:38
10	Q. And you had had conversations with	14:36:39
11	Mr. Boehmke by that time?	14:36:41
12	A. Probably not.	14:36:43
13	Q. Okay. But were you aware of Uber and Otto	14:36:46
14	having conversations at that time?	14:36:50
15	A. I don't think so.	14:36:51
16	Q. So you weren't aware of the conversations, to	14:36:55
17	the extent that they were happening, between Uber and	14:36:58
18	Otto?	14:36:59
19	A. I don't recall if I had become aware of Uber	14:37:04
20	and Otto discussions at this early date in May.	14:37:07
21	Q. So if you look at page 14.	14:37:28
22	A. Okay.	14:37:34
23	Q. You see it says, [REDACTED]	14:37:35
24	A. Yes.	14:37:36
25	Q. Does this refresh your recollection that Uber	14:37:39

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1	A. Right.	14:41:44
2	Q. So to your knowledge, what's described here	14:41:48
3	as Plan B isn't the basis for the Fuji design?	14:41:52
4	MR. KIM: Objection; form.	14:41:55
5	THE WITNESS: I am not aware of a link between	14:41:59
6	this Plan B in this document and the Fuji design.	14:42:04
7	BY MR. JAFFE:	14:42:04
8	Q. And you would be in a position to know;	14:42:08
9	right?	14:42:09
10	MR. KIM: Objection; form.	14:42:11
11	THE WITNESS: I would have to make that	14:42:13
12	presumption. And it's just a presumption.	14:42:15
13	BY MR. JAFFE:	14:42:15
14	Q. In your job, you would be in a position to	14:42:18
15	know that; right?	14:42:18
16	MR. KIM: Objection; form.	14:42:25
17	THE WITNESS: I would expect to know that.	14:42:26
18	MR. JAFFE: Let's take a break.	14:42:32
19	THE VIDEOGRAPHER: We are off the record at 2:42	14:42:36
20	p.m.	14:42:36
21	(Recess taken.)	14:42:36
22	THE VIDEOGRAPHER: We are back on the record at	14:55:55
23	2:56 p.m.	14:55:57
24	BY MR. JAFFE:	14:55:57
25	Q. Have you discussed the subject matter of your	14:56:03

1 testimony during any of the breaks today? 14:56:05

2 A. Nothing in terms of like what we said in this 14:56:10

3 testimony. 14:56:11

4 Q. What does that mean? 14:56:13

5 A. That means the legal team may have advised me 14:56:19

6 on procedural matters, general terms without 14:56:23

7 referencing the actual content of our discussion. 14:56:26

8 Q. What did they tell you? 14:56:27

9 MR. KIM: Objection. 14:56:27

10 Going to instruct you not to answer on the 14:56:31

11 grounds of attorney-client privilege. 14:56:33

12 BY MR. JAFFE: 14:56:33

13 Q. Did your legal team tell you how to testify 14:56:36

14 after these meetings? 14:56:37

15 MR. KIM: You can answer that yes or no. 14:56:39

16 THE WITNESS: Could you be clear by what you mean 14:56:41

17 by "how to testify"? 14:56:42

18 BY MR. JAFFE:

19 Q. I don't think I can be any clearer. 14:56:46

20 A. Like what to say? 14:56:47

21 Q. I'm trying to understand what the legal team 14:56:51

22 told you in terms of general terms, procedural 14:56:55

23 matters, which is what you said. 14:56:57

24 What did they tell you? 14:56:58

25 MR. KIM: Instruct you not to reveal any 14:57:00

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1	privileged conversations.	14:57:11
2	THE WITNESS: Are you instructing me not to	14:57:13
3	answer?	14:57:14
4	MR. KIM: You can answer his prior question yes or	14:57:17
5	no.	14:57:17
6	THE WITNESS: If your question is, did they tell	14:57:24
7	me what to say, no. Did they tell me how to testify,	14:57:28
8	no.	14:57:29
9	BY MR. JAFFE:	14:57:29
10	Q. When you said that they told you things about	14:57:31
11	general things and procedural considerations, what	14:57:34
12	general things did they tell you?	14:57:37
13	MR. KIM: I'm going to instruct you not to answer	14:57:39
14	on the grounds of attorney-client privilege.	14:57:40
15	BY MR. JAFFE:	14:57:40
16	Q. What procedural -- what general terms about	14:57:42
17	your testimony did they tell you?	14:57:45
18	A. Let's see. We discussed how much time is	14:57:52
19	left, something called redirect.	14:57:59
20	Q. What did they talk to you about redirect?	14:58:01
21	MR. KIM: And I'm going to instruct you not to	14:58:05
22	reveal any attorney-client privileged conversations.	14:58:09
23	And I don't think you can answer that without doing	14:58:11
24	so. I'm going to instruct you not to answer.	14:58:14
25	BY MR. JAFFE:	14:58:14

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1	Q. You talked about redirect on a break? Yes or	14:58:21
2	no?	14:58:21
3	A. Yes, we talked about the term "redirect."	14:58:24
4	Q. And what did you talk about redirect?	14:58:28
5	A. That is a situation where, instead of you,	14:58:33
6	the lawyer on my side of the table is going to ask me	14:58:36
7	questions.	14:58:36
8	Q. And how did redirect come up in the context	14:58:39
9	of your conversation?	14:58:40
10	A. In the context of time remaining and that	14:58:45
11	redirect would occur after your allotted time has	14:58:49
12	ended, so it's going to take longer than I might	14:58:54
13	think.	14:58:54
14	Q. Did Uber's lawyers tell you that they were	14:58:58
15	going to do redirect questions?	14:59:00
16	A. Yes.	14:59:02
17	Q. And did they tell you what those questions	14:59:04
18	were going to be about?	14:59:06
19	A. No.	14:59:07
20	Q. Did you talk at all about what sort of	14:59:11
21	redirect would happen?	14:59:13
22	A. No.	14:59:16
23	Q. What did you talk about about redirect?	14:59:19
24	A. That they will ask me questions just like you	14:59:24
25	ask me questions and that it's going to take longer	14:59:27

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1 than the hour, approximately, that we have remaining, 14:59:30
2 so not to expect it to be over at that time. 14:59:34

3 Q. What else, in general terms, did you and your 14:59:36
4 lawyers talk about on the breaks? 14:59:38

5 MR. KIM: I'm going to advise you not to reveal 14:59:46
6 any attorney-client privileged communications. 14:59:49

7 THE WITNESS: So I'm not a lawyer. I don't know 14:59:55
8 what is considered attorney-client privilege and what 14:59:58
9 wouldn't be in that context of conversations, so I 15:00:01
10 need to be careful not to answer and disclose 15:00:03
11 something I'm not supposed to say. 15:00:06

12 MR. KIM: Do you need to consult with me about a 15:00:09
13 privilege issue? 15:00:09

14 THE WITNESS: Yes, that would help. 15:00:12

15 MR. KIM: Can we go off the record so he can 15:00:15
16 consult with me on a privilege issue before he answers 15:00:18
17 any further questions about what we discussed? 15:00:20

18 MR. JAFFE: I'll withdraw the question and I'll 15:00:22
19 ask a different question. 15:00:23

20 BY MR. JAFFE: 15:00:23

21 Q. Tell me the substance of your private 15:00:26
22 conferences -- private conferences during the break 15:00:28
23 that you had with Uber's lawyers, all of it. 15:00:32

24 MR. KIM: I'm going to object on the grounds of 15:00:36
25 privilege. 15:00:37

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1 taking -- and we can do this for more angles if you 15:51:42
2 wish, but it looks like the diodes -- [REDACTED] 15:51:43
3 [REDACTED] 15:51:48
4 [REDACTED] 15:51:56

5 Q. Could you describe generally how you 15:51:59
6 calculated that or determined that? 15:52:01

7 A. Yeah. So [REDACTED] 15:52:05
8 [REDACTED] 15:52:10
9 [REDACTED] 15:52:16
10 [REDACTED] 15:52:22
11 [REDACTED] 15:52:25

12 I don't know if you need any more -- 15:52:29

13 Q. Is there a name for that equation that you 15:52:31
14 just described? 15:52:32

15 A. [REDACTED] 15:52:36
16 [REDACTED] or -- yeah. 15:52:41

17 Q. And then going back to the channel spacing 15:52:45
18 under "delta" -- 15:52:46

19 Is that the term you used? 15:52:48

20 A. Under "delta" -- channel spacing, yes. This 15:52:55
21 is an angular spacing. 15:52:57

22 Q. Does that reflect the accurate channel 15:52:59
23 spacing for the Fuji Board A? 15:53:02

24 A. These do appear to be the channel spacing. 15:53:07
25 In terms of accurate, these numbers are already 15:53:11

1 A. Yeah. 16:01:00
2 MR. JAFFE: Objection; leading. 16:01:03
3 BY MR. KIM: 16:01:03
4 Q. Have you ever used the term [REDACTED] 16:01:08
5 A. I'm familiar with the term from mathematics. 16:01:13
6 Q. What does that term mean to you? 16:01:17
7 A. To me, especially in reference to a 16:01:20
8 mathematical function, the term [REDACTED] means that 16:01:25
9 [REDACTED]

[REDACTED] 16:01:53
[REDACTED]

14 Q. In your opinion, do -- the channel spacing 16:01:55
15 for Board A for Fuji, do they [REDACTED]

[REDACTED] 16:02:07
17 A. Channel spacing related to the "Delta" column 16:02:10
18 we've labeled? 16:02:11

19 Q. Yes. 16:02:12

20 A. To my understanding, that is not [REDACTED] 16:02:30

21 Q. Why is that? 16:02:31

22 A. I see numbers that start at the "Delta" 16:02:34
23 column, the channel spacing we called it, [REDACTED]

[REDACTED]

16:02:49
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1 [REDACTED] 16:02:51
2 Q. Same question for the distance between 16:02:53
3 diodes. 16:02:54

4 Is that distance [REDACTED] 16:02:54
[REDACTED] for Fuji? 16:03:06

6 A. No. The linear distance is not [REDACTED]
[REDACTED]
[REDACTED] 16:03:26

10 Q. Is that also true for the channel spacing for 16:03:32
11 Board [REDACTED] for Fuji? 16:03:34

12 MR. JAFFE: Objection; leading. 16:03:40

13 THE WITNESS: I see the same [REDACTED]
[REDACTED]
[REDACTED] 16:04:05

18 BY MR. KIM:
19 Q. And that's for Board [REDACTED] for Fuji? 16:04:08
20 A. For Board [REDACTED] on this document, yes. 16:04:10
21 Q. What about for Board [REDACTED] are the channel 16:04:15
22 spacings [REDACTED] 16:04:23
23 A. No. [REDACTED]

[REDACTED]
[REDACTED] 16:04:36

1 Q. Um-hum. Let me ask it a different way. 16:13:45

2 Does the [REDACTED]

[REDACTED]

16:14:10

6 MR. JAFFE: Objection; form, leading. 16:14:14

7 THE WITNESS: There is a [REDACTED]

[REDACTED]

16:14:40

12 BY MR. KIM: 16:14:40

13 Q. Okay. And earlier you were asked about the 16:14:47

14 term [REDACTED] correct? 16:14:48

15 A. Yes. 16:14:50

16 Q. And [REDACTED] refers to what when 16:14:53

17 you're using the term? 16:14:56

18 A. It depends on the context. I have to be 16:14:59

19 careful to clarify. [REDACTED]

[REDACTED]

16:15:20

24 Q. And how -- how do you use the term? 16:15:23

25 A. Most of the time we've been talking, at Uber, 16:15:31

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1 THE WITNESS: This does not refer to Fuji. It 16:19:00
2 could not refer to Fuji. And if you look at the 16:19:08
3 e-mail -- let me find this. Sorry. 16:19:14
4 Perhaps Section B discussion -- it sounds to 16:19:22
5 me like this is discussing Spider, where we're talking 16:19:28
6 about groups of eight. The date would be consistent 16:19:33
7 with what we ultimately called Spider. 16:19:41
8 BY MR. KIM: 16:19:41
9 Q. Okay. So looking at UBER00008499, you 16:19:50
10 believe that what's described in A there that you were 16:19:53
11 asked about earlier actually refers to Spider and not 16:19:56
12 Fuji? 16:19:58
13 A. That's what it seems like to me, yes. 16:20:01
14 Q. I would like to go back to your Exhibit B 16:20:11
15 from your original declaration. 16:20:14
16 Do you see that column with the heading 16:20:32
17 [REDACTED]
18 A. Yes. There's two. 16:20:36
19 Q. Okay. Let's look at the leftmost column. 16:20:42
20 A. Yes. 16:20:43
21 Q. Are [REDACTED]
[REDACTED] 16:20:49
 on Fuji boards?
23 MR. JAFFE: Objection; form and leading. 16:20:52
24 THE WITNESS: No. As I understand it, the 16:20:55
25 [REDACTED] 16:21:01

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1 [REDACTED] 16:21:04

2 BY MR. KIM: 16:21:04

3 Q. Do you have an understanding as to why there 16:21:07

4 are [REDACTED] listed there? 16:21:09

5 A. Yeah. As I was discussing earlier, my 16:21:17

6 understanding is these coordinates referencing the 16:21:22

7 [REDACTED] were generated early in the development of 16:21:29

8 Fuji when [REDACTED] 16:21:33

9 More specifically, these coordinates were given to the 16:21:37

10 electrical engineer before the electrical engineer had 16:21:39

11 laid out the circuits onto the board and added the 16:21:42

12 fiducial mark onto the board. 16:21:45

13 Q. Are there any plans at Uber to use [REDACTED]

[REDACTED] on any transmit boards for 16:22:07

15 Fuji? 16:22:08

16 A. Not that I'm aware of. 16:22:11

17 Q. Okay. You can set that one aside. 16:22:28

18 Actually, a couple follow-up questions on 16:22:46

19 Exhibit 155. 16:22:48

20 I believe you were asked when this document 16:22:52

21 was created -- let me just ask it. 16:22:56

22 Do you know when this document was created? 16:22:58

23 MR. JAFFE: Objection; form. 16:23:01

24 THE WITNESS: Which version are you referring to? 16:23:03

25 BY MR. KIM: 16:23:03

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1	Scott Boehmke --	16:24:46
2	MR. JAFFE: Objection; leading, outside the scope.	16:24:51
3	BY MR. KIM:	16:24:51
4	Q. -- that you discussed in paragraph 18 of your	16:24:55
5	original declaration?	16:24:57
6	MR. JAFFE: Objection; outside the scope, improper	16:25:00
7	redirect.	16:25:01
8	THE WITNESS: 155? 151?	16:25:20
9	BY MR. KIM:	
10	Q. It's either 151 or 152. It's 151.	16:25:26
11	(Witness reviews documents.)	16:25:58
12	A. Do you have a paragraph?	16:25:59
13	Q. Paragraph 18.	16:26:00
14	A. Thank you. Okay. Okay. 18.	16:26:08
15	(Witness reviews document.)	16:26:19
16	A. Okay.	16:26:20
17	Q. And for the record, earlier today you were	16:26:22
18	asked about this paragraph.	16:26:25
19	Do you recall that?	16:26:26
20	A. Yes.	16:26:26
21	MR. JAFFE: Objection; leading.	16:26:29
22	BY MR. KIM:	16:26:29
23	Q. And you were asked about whether there was	16:26:33
24	any evidence that the information you received from	16:26:38
25	Scott Boehmke referred to in this paragraph was	16:26:41

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1 actually used in Fuji, and you referred to CAD files. 16:26:45
2 What did you -- what CAD files are you 16:26:47
3 referring to? 16:26:47
4 MR. JAFFE: Objection; form and leading. 16:26:51
5 THE WITNESS: I was referring -- 16:26:52
6 MR. JAFFE: Beyond the scope. 16:26:55
7 THE WITNESS: I was referring to mechanical CAD 16:26:58
8 files in the SolidWorks software created by Gaetan 16:27:05
9 that have the angles specified by Scott Boehmke that 16:27:14
10 end up terminating in a set of points for each laser 16:27:20
11 diode emitting point. 16:27:24
12 He then also included a CAD model of the 16:27:29
13 laser board outline that he developed that also had 16:27:33
14 those same emitting points on there. And then, 16:27:41
15 finally, you can see the theta angle matches the 16:27:46
16 prescribed angles that we got from Scott. 16:27:50
17 BY MR. KIM: 16:27:50
18 Q. Can you explain step by step the process from 16:27:54
19 going from the angles that you received from Scott -- 16:27:57
20 A. Okay.
21 Q. -- to what ultimately ended up being the 16:28:02
22 diode placement angles reflected in Exhibit B of your 16:28:08
23 original declaration and marked as Exhibit 155 for 16:28:11
24 your deposition? 16:28:13
25 MR. JAFFE: Objection; form, leading. This is 16:28:15

1 improper redirect, outside the scope. We're just 16:28:20
2 going to object to all this evidence; I think I've 16:28:24
3 made that clear. 16:28:25

4 THE WITNESS: My understanding of the process that 16:28:28
5 led to the coordinates we have in Exhibit 155, 16:28:32
6 starting with angles that Scott Boehmke provided, was 16:28:36
7 that Gaetan designed a lens in Zemax. We had decided 16:28:44
8 on 150 millimeter focal length, chosen material for 16:28:49
9 the lens. 16:28:50

10 From the lens optimization provided by the 16:28:52
11 Zemax software, we had the focal length behind the 16:28:59
12 lens to the beginning of a focal surface. And he had 16:29:05
13 a radius of curvature for the focal surface. 16:29:10

14 From that information in Zemax, you can take 16:29:14
15 that into SolidWorks software, model up a curved 16:29:19
16 surface with the same radius of curvature as the focal 16:29:23
17 surface defined by Zemax. That could be -- he modeled 16:29:30
18 that at a location behind the lens with a consistent 16:29:36
19 focal length developed in Zemax. 16:29:41

20 He then, as I understand it, created lines or 16:29:48
21 rays in the CAD geometry that reflected the vertical 16:29:52
22 angles specified by Scott Boehmke, one by one, 16:29:57
23 individually, for the [REDACTED] different beam angles for the 16:30:01
24 [REDACTED] boards in the mid-range cavity. 16:30:05

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1 intersected this curved focal surface. The point of 16:30:17
2 intersection defined the location for the laser diodes 16:30:23
3 emitting surface. He then put that into his model, 16:30:30
4 modeled a PCB behind that. 16:30:33

5 In this case specifically, he had [REDACTED] 16:30:40

6 So he had [REDACTED] where rays would 16:30:48
7 intersect a -- I guess you would call this a 16:30:54
8 two-dimensional flat, curved focal surface. 16:30:57

9 From that, he had designed this laser board 16:31:06
10 mechanical outline relative to that outline and 16:31:10
11 relative to the mounting features that were included 16:31:13
12 in that design, including [REDACTED]. He had 16:31:16
13 locations for laser diodes on that board. 16:31:21

14 Individually, those models of the Laser 16:31:28
15 Boards [REDACTED] were sent to the electrical 16:31:32
16 engineer, Will Treichler, who then proceeded to lay 16:31:38
17 out the circuit behind each of the laser diodes. 16:31:41

18 BY MR. KIM:

19 Q. And earlier I believe you mentioned Florin. 16:31:49

20 What was Florin's role in all this? 16:31:52

21 A. Florin is another electrical engineer. He 16:31:55
22 used to work at Velodyne. I consider him a senior 16:32:00
23 electrical engineer. So I asked him to design some 16:32:02
24 candidate laser pulsing circuits. He designed that 16:32:09
25 test board. And the circuits on there, he tested the 16:32:15

1	Go ahead.	17:21:07
2	BY MR. KIM:	17:21:07
3	Q. Are the current beam angles for [REDACTED]	17:21:11
4	reflected in Exhibit 155 that we were looking at	17:21:14
5	earlier?	17:21:15
6	A. Yes.	17:21:27
7	Q. Okay.	17:21:34
8	A. Let me double check. Hold on. Sorry.	17:21:37
9	(Witness performs calculation.)	
10	A. Okay. Yes. Angles in Exhibit 155 do appear	17:22:07
11	to be the accurate angles that we designed the Fuji to	17:22:12
12	and -- and started building Fuji to.	17:22:15
13	Q. Earlier you were asked about whether or not	17:22:23
14	Mr. Levandowski had input into the Fuji design.	17:22:30
15	Did Mr. Levandowski have any technical input	17:22:34
16	for the Fuji design?	17:22:36
17	MR. JAFFE: Objection; form, leading.	17:22:38
18	THE WITNESS: To my recollection, the only	17:22:44
19	potentially technical input Anthony Levandowski had on	17:22:49
20	the Fuji design were telling us to make it as good as	17:22:55
21	the Velodyne or better. To under-regard any concerns	17:23:03
22	given to us from people in Pittsburgh regarding size	17:23:06
23	and weight, that that should not be a prioritized	17:23:09
24	requirement.	17:23:10
25	BY MR. KIM:	

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1 Q. At the very beginning of your deposition you 17:23:19
2 were asked about whether you had communications with 17:23:22
3 Mr. Levandowski while you were at Tyto. 17:23:23
4 Do you remember that? 17:23:26
5 A. Vaguely. 17:23:27
6 Q. When you were asked whether or not he gave 17:23:32
7 you any confidential information, you said you thought 17:23:36
8 it was general information. What did you mean by 17:23:39
9 that? 17:23:40
10 A. I believe information Anthony provided 17:23:50
11 regarding a [REDACTED] was 17:23:57
12 information that I've seen other places on the 17:24:02
13 Internet as white papers, as publicly-available 17:24:07
14 information in terms of architect or configuration for 17:24:11
15 a laser. I felt recommendations for vendors would be 17:24:19
16 information, again, publicly available by doing Google 17:24:23
17 search for components like that. 17:24:26
18 Q. And at the very start of your deposition you 17:24:32
19 were asked about 64 channels and the convenience of 17:24:34
20 two. Do you recall that line of questioning? 17:24:37
21 A. Wasn't it the power of two. 17:24:40
22 Q. Maybe it was the power of two. 17:24:42
23 A. Yeah. 17:24:43
24 Q. What was the reason that Fuji had -- or the 17:24:53
25 Fuji design has 64 channels? 17:24:57

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1 Q. And you signed it without actually checking 17:38:47
2 it was accurate? 17:38:49
3 A. Whoa. I looked at these numbers. 17:38:52
4 Q. But you didn't check what you did today 17:38:54
5 before you signed this declaration, did you? 17:38:59
6 A. What do you mean? Identifying, double 17:39:02
7 checking the [REDACTED] 17:39:04
8 Q. Yes. 17:39:04
9 A. I did check that. 17:39:06
10 Q. So why today did you need to check it again? 17:39:09
11 A. I like to be careful. 17:39:11
12 Q. You like to be careful? 17:39:12
13 A. Yeah. I want to be sure we can show the [REDACTED]
[REDACTED] that they matched. 17:39:19
14 Q. Did you know when you signed your declaration 17:39:22
15 whether these actually matched every single angle and 17:39:26
16 every single board? 17:39:27
17 A. Yes, I believe I did. 17:39:28
18 Q. What do you mean you believe you did? 17:39:31
19 A. To my recollection, I checked [REDACTED]
[REDACTED] And I checked the 17:39:42
20 initial [REDACTED] and knew that they would follow the 17:39:46
21 same pattern so I didn't check every single angle. 17:39:50
22 Q. How many of these did you actually check 17:39:52
23 yourself before you signed your declaration? 17:39:55

1	A. I remember at least checking the initial [REDACTED]	
	[REDACTED]	17:40:04
3	Q. So you checked about six out of the 64; is	17:40:08
4	that fair?	17:40:09
5	A. Yeah.	17:40:09
6	Q. And the rest are purely from counsel; you're	17:40:12
7	just relying on them?	17:40:14
8	A. Not exactly.	17:40:16
9	Q. You didn't check.	17:40:19
10	How did you know it was accurate?	17:40:21
11	A. How would the pattern change?	17:40:24
12	Q. I don't know. It's your declaration.	17:40:26
13	A. I understand. From my understanding, the	17:40:30
14	pattern is consistent in the letters. So once you	17:40:35
15	start the pattern properly, it's going to finish out	17:40:39
16	properly.	17:40:40
17	Q. Let's go to the next page, page 12.	17:40:42
18	Who prepared this table?	17:40:44
19	A. Counsel for Uber.	17:40:51
20	Q. And you had to double check it here at your	17:40:54
21	deposition; you didn't know whether it was accurate	17:40:55
22	when you signed it, did you?	17:40:57
23	MR. KIM: Objection; form.	17:40:58
24	THE WITNESS: I believe I checked that before as	17:41:00
25	well.	17:41:01

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1	Do you see that?	18:13:12
2	A. Yes.	18:13:12
3	Q. And based on what you talked about with	18:13:14
4	Mr. Kim, Uber's lawyer, it was Mr. Pennecot that	18:13:18
5	imported the data into Zemax; right?	18:13:21
6	A. Yes.	18:13:22
7	Q. And it was Mr. Pennecot that then determined	18:13:25
8	the resultant emitting points of the laser diodes;	18:13:29
9	right?	18:13:29
10	A. Yes.	18:13:29
11	Q. And it was Mr. Pennecot that then exported it	18:13:33
12	into CAD software; right?	18:13:36
13	A. Yes, that's my understanding.	18:13:38
14	Q. And so Mr. Pennecot was the one who actually	18:13:42
15	came up with [REDACTED]	18:13:47
16	based on Mr. Boehmke's beam angles; isn't that right?	18:13:51
17	A. No, I don't think so.	18:13:52
18	Q. So what Mr. Pennecot exported into CAD	18:13:56
19	software, that wasn't [REDACTED]?	18:14:04
20	A. So if we go back carefully to transcripts,	18:14:07
21	what I should point out is, since this declaration, I	18:14:11
22	have more detailed information of exactly how	18:14:14
23	Mr. Pennecot did his import. To be accurate, I want	18:14:19
24	to say that there's an error in here that he brought	18:14:25
25	the angles into CAD software, brought the lens design	18:14:31

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1 and field curvature shape from Zemax into CAD 18:14:37
2 software. 18:14:37

3 Now you're asking did Mr. Pennecot in fact 18:14:40
4 design the [REDACTED]

[REDACTED] Mr. Pennecot was dependent on 18:14:50
6 somebody else to tell him how many boards the angles 18:14:53
7 had to be divided among, and then Mr. Pennecot set the 18:14:58
8 positions of the laser diodes onto those boards. 18:15:02

9 Q. Who told Mr. Pennecot to use [REDACTED] 18:15:05

10 A. I told Mr. Pennecot to use [REDACTED] in 18:15:09
11 the optical cavity. 18:15:10

12 Q. Who told him to use [REDACTED] in total? 18:15:13

13 A. I don't think anybody told him to use [REDACTED]
[REDACTED] in total. 18:15:18

15 Q. Who told him to put [REDACTED]
[REDACTED] 18:15:22

17 A. Mr. Pennecot understood the reason we were 18:15:31
18 going to [REDACTED] so I'll -- with that said, I'm 18:15:35
19 not aware that anybody had to tell him to [REDACTED]

[REDACTED] 18:15:41
21 Q. You don't know where Mr. Pennecot [REDACTED]
[REDACTED] from? 18:15:45

23 A. No, I know exactly where he got it from. 18:15:48

24 Q. Where did he get it from? 18:15:49

25 A. The need to [REDACTED] 18:15:52

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1 If you're asking do I know from whom, no. I would say 18:15:57
2 that he could derive that himself. 18:15:59

3 Q. Okay. So -- but just to be clear, 18:16:04

4 Mr. Pennecot -- you told him [REDACTED]

[REDACTED] in the SolidWorks 18:16:13

6 CAD software, and you told him 64 channels and he 18:16:16
7 created [REDACTED] is that fair? 18:16:21

8 A. I didn't necessarily tell him 64 channels. 18:16:24

9 He got the list of angles that Scott Boehmke had 18:16:28
10 generated. 18:16:29

11 Q. So he knew that there were 64 channels; 18:16:31
12 right? 18:16:31

13 A. Without me telling him. 18:16:33

14 Q. So the sequence of events was there was Scott 18:16:36
15 Boehmke provided beam angles for 64 channels? 18:16:40

16 A. Yes. 18:16:40

17 Q. That went to Mr. Pennecot. He imported that 18:16:45
18 data into Zemax. And after he outputted into CAD 18:16:50
19 software, the result was a design with [REDACTED]

[REDACTED] is that 18:17:01

21 right? 18:17:02

22 A. Can you read that back. 18:17:04

23 (Record read by reporter as follows: 18:17:04

24 "Question: He imported that data into Zemax. 18:17:04
25 And after he outputted into CAD software, the